

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

**Governor Dummer Academy
Elm Street, Byfield
Byfield, Massachusetts 01922**

is authorized to discharge from the facility located at

**Governor Dummer Academy Wastewater Treatment Facility
Elm Street, Byfield
Byfield, Massachusetts 01922**

to receiving water named

**unnamed intermittent freshwater tributary to the Mill River
(Parker River Watershed, MA91-09)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective 60 days after date of signature.

This permit and the authorization to discharge expire at midnight on September 30, 2006.

This permit supersedes the permit issued on September 2, 1996.

This permit consists of 8 pages in Part I including effluent limitations, monitoring requirements, Attachments A and B , and 35 pages in Part II including General Conditions and Definitions.

Signed this 10th day of December, 2003

SIGNATURE ON FILE

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number **001**, treated effluent to unnamed intermittent freshwater tributary to the Mill River. Such discharges shall be limited and monitored as specified below.

<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>	
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE ³ TYPE
FLOW	52,000 gal/day	*****	Report	CONTINUOUS ²	RECORDER
BOD ₅	5.8 mg/l 2.5 lbs/day	5.8 mg/l 2.5 lbs/day	Report mg/l ¹ Report lbs/day ¹	WEEKLY ⁴	24-HOUR COMPOSITE ⁵
TSS	5.8 mg/l 2.5 lbs/day	5.8 mg/l 2.5 lbs/day	Report mg/l ¹ Report lbs/day ¹	WEEKLY ⁴	24-HOUR COMPOSITE ⁵
pH RANGE ¹	6.5 - 8.3 SU (SEE PERMIT PAGE 5 OF 11, PARAGRAPH I.A.1.b.)			WEEKLY	GRAB
AMMONIA-NITROGEN, as N	1.0 mg/l	1.0 mg/l	1.5 mg/l	WEEKLY	24-HOUR COMPOSITE ⁵
COPPER, TOTAL ¹¹	9.3 ug/l	*****	14 ug/l	1/MONTH	24-HOUR COMPOSITE ⁵
LEAD, TOTAL ¹¹	3.2 ug/l	*****	*****	1/MONTH	24-HOUR COMPOSITE ⁵
FECAL COLIFORM BACTERIA ^{1,6}	14 cfu/100 ml	*****	43 cfu/100 ml	WEEKLY	GRAB
DISSOLVED OXYGEN (April 1 st -October 31 st)	NOT LESS THAN 5.0 mg/l			WEEKLY	GRAB
WHOLE EFFLUENT TOXICITY (See Footnotes 7, 8, 9 and 10)	Acute LC ₅₀ ≥ 100% Chronic C-NOEC ≥ 100%			2/YEAR	24-HOUR COMPOSITE ⁵

Footnotes:

1. Required for State Certification.
2. For flow, report maximum and minimum daily rates and total flow for each operating date. This is an annual average limit, which shall be reported as a rolling average. The first value will be calculated using the monthly average flow for the first full month ending after the effective date of the permit and the eleven previous monthly average flows. Each subsequent month's DMR will report the annual average flow that is calculated from that month and the previous 11 months.
3. All required effluent samples shall be collected after UV disinfection and prior to discharge at end of outfall pipe. Any change in sampling location must be reviewed and approved in writing by EPA and MADEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. All samples shall be 24 hour composites unless specified as a grab sample in 40 CFR §136.
4. Sampling required for influent and effluent.
5. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during one 24-hour continuous period (e.g. 0700 Monday to 0700 Tuesday).
6. Fecal coliform discharges shall not exceed a geometric mean of 14 colony forming units (cfu) per 100 ml, nor shall the daily maximum discharge exceed 43 cfu per 100 ml. Fecal coliform grab samples shall be taken at a time during the 2 hour period of maximum diurnal flow.
7. The permittee shall conduct chronic (and modified acute) toxicity tests two times per year. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, only. Toxicity test samples shall be collected during the second week of the months of May and August. The test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates Second Week in	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
May August	June 30 th September 30 th	<u>Ceriodaphnia dubia</u> (Daphnid) See Attachment A	≥ 100%	≥ 100%

8. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
9. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear dose-response relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "≥ 100%" limit is defined as a sample which is composed of 100% effluent. This is a maximum daily limit derived as a percentage of the inverse of the dilution factor of 1.0.
10. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The "Guidance Document" has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA's Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this "Guidance Document" will be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A**.
11. The minimum level (ML) for total copper and lead are defined as 3 ug/l. This value is the minimum detection level for copper and lead using EPA approved Furnace Atomic Absorption Method 220.2 for copper and 239.2 for lead respectively.

Part I.A.1. (continued)

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 at any time.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the designed flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.
- f. The results of sampling for any parameter above its required frequency must also be reported.

Part I.A.2. All Wastewater Treatment Facilities (WWTF) must provide adequate notice to the Director of the following:

- a.. Any substantial change in the volume or character of pollutants being introduced into that WWTF by a source introducing pollutants into the WWTF at the time of issuance of the permit.
- b. For purposes of this paragraph, adequate notice shall include information on:
 - (1) the quantity and quality of effluent introduced into the WWTF; and
 - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the WWTF.

Part I.A.3. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

Part I.A.4. Numerical Effluent Limitations for Toxicants

- a. EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I A.1. of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Infiltration/Inflow Control Plan:

The permittee shall develop and implement, or maintain and update if already existing, a plan to control infiltration and inflow (I/I) to the separate sewer system. **The plan, or its updates, shall be submitted to the EPA and MA DEP within six months of the effective date of this permit** (see page 1 of this permit for the effective date). The plan or update shall describe the permittee's program for preventing infiltration/inflow related effluent limit violations, and all unauthorized discharges of wastewater, including overflows and by-passes due to excessive infiltration/inflow.

The plan or update shall include:

- An ongoing program to identify and remove sources of infiltration and inflow. The program shall include the necessary funding level and the source(s) of funding.
- An inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts. Priority should be

given to removal of public and private inflow sources that are upstream from, and potentially contribute to, known areas of sewer system backups and/or overflows.

- Identification and prioritization of areas that will provide increased aquifer recharge as the result of reduction/elimination of infiltration and inflow to the system.

Reporting Requirements:

A summary report of all actions taken to minimize I/I during the previous calendar year shall be submitted to EPA and the MA DEP **annually, by the anniversary date of the effective date of this permit**. The summary report shall, at a minimum, include:

- A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year.
- Expenditures for any infiltration/inflow related maintenance activities and corrective actions taken during the previous year
- A map with areas identified for I/I-related investigation/action in the coming year.
- A calculation of the annual average I/I, the maximum month I/I for the reporting year.
- A report of any infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

3. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

D. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.
2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.
3. The requirements and technical standards of 40 CFR part 503 apply to facilities which perform one or more of the following use or disposal practices:

- a. Land application - the use of sewage sludge to condition or fertilize the soil
 - b. Surface disposal - the placement of sewage sludge in a sludge-only landfill
 - c. Sewage sludge incineration in a sludge-only incinerator
4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.
 5. The permittee shall use and comply with the attached (see Attachment B) compliance guidance document to determine appropriate conditions. Appropriate conditions contain the following elements:
 - General requirements
 - Pollutant limitations
 - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
 - Management practices
 - Record keeping
 - Monitoring
 - Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year:

less than 290	1/ year
290 to less than 1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.
8. The permittee shall **submit an annual report containing the information specified in the guidance by February 19**. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to **submit an annual report**

by **February 19** containing the following information:

- Name and address of contractor responsible for sludge disposal
- Quantity of sludge in dry metric tons removed from the facility by the sludge contractor

E. MONITORING AND REPORTING

1. Reporting

- a. Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the **15th day of the following month.**

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency address for all reports is:

Massachusetts Department of Environmental Protection
Northeast Regional Office- Bureau of Resource Protection
1 Winter Street
Boston, MA 02108

- b. Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

and

Commonwealth of Massachusetts
Division of Marine Fisheries
Shellfish Management Program
30 Emerson Avenue
Gloucester, MA 01930

Tel: (978)282-0308

- c. The following agencies shall be notified within 24 hours when a permit excursion or plant failure occurs:

Massachusetts Department of Environmental Protection
Northeast Regional Office- Bureau of Resource Protection
1 Winter Street
Boston, MA 02108

and

Commonwealth of Massachusetts
Division of Marine Fisheries
Shellfish Management Program
30 Emerson Avenue
Gloucester, MA 01930
Tel: (978)282-0308

F. STATE PERMIT CONDITIONS

1. This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.
2. Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.